

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

RECEIVED

DEC - 4 1996

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

Amendment of the Commission's Rules)
to Establish Part 27, the Wireless)
Communications Service ("WCS"))

GN Docket No. 96-228

DOCKET FILE COPY ORIGINAL

COMMENTS OF THE
CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Michael F. Altschul
Vice President, General Counsel

Randall S. Coleman
Vice President for
Regulatory Policy and Law

CELLULAR TELECOMMUNICATIONS
INDUSTRY ASSOCIATION
1250 Connecticut Avenue, N.W.
Suite 200
Washington, D.C. 20036
(202) 785-0081

Its Attorneys

December 4, 1996

No. of Copies rec'd
List ABCDE

024

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND SUMMARY	1
II. THE COMMISSION MUST ADEQUATELY ALLOCATE THE USE OF THE SPECTRUM AND IMPLEMENT ITS OTHER PROPOSALS TO FULFILL THE OBJECTIVES OF BOTH SECTION 3001 AND SECTION 309(J) . . .	3
III. THE WCS AUCTION SHOULD BE DESIGNED TO MAXIMIZE EFFICIENT FLEXIBLE USE OF THE SPECTRUM.	12
IV. MARKET DECONCENTRATION SUGGESTS THAT THE COMMISSION SHOULD RAISE THE SPECTRUM CAP ON CELLULAR, PCS AND SMR PROVIDERS TO FACILITATE COMPETITION.	17
V. CONCLUSION	19

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

In the Matter of)	
)	
Amendment of the Commission's Rules)	GN Docket No. 96-228
to Establish Part 27, the Wireless)	
Communications Service ("WCS"))	

**COMMENTS OF THE
CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Cellular Telecommunications Industry Association ("CTIA")¹ hereby submits its Comments in the above-captioned proceeding.²

I. INTRODUCTION AND SUMMARY

CTIA is concerned that the Commission's proposals in the Notice for the allocation of spectrum for Wireless Communications Services will endanger the development of the band and fail to fulfill the Commission's statutory spectrum management

¹ CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the association covers all Commercial Mobile Radio Service ("CMRS") providers, including 48 of the 50 largest cellular, broadband personal communications service ("PCS"), enhanced specialized mobile radio, and mobile satellite service providers. CTIA represents more broadband PCS carriers, and more cellular carriers, than any other trade association.

² Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, Notice of Proposed Rulemaking, FCC 96-441 (released November 12, 1996) ("WCS NPRM" or "Notice").

responsibilities. While the level of flexibility afforded the potential user, as reflected in the flexibility of use, broad eligibility, partitioning, and disaggregation proposals, reflects a recognition on the part of the Commission that market forces should shape the direction of CMRS development, the effective discharge of the Commission's spectrum allocation responsibilities is a necessary prerequisite to the accomplishment of that goal.

CTIA supports the use of auctions to assign spectrum which has already been allocated to a particular use. However, the particular use for which the spectrum is allocated must be defined prior to the assignment of the spectrum by auction. The absence of a service definition will fail to provide manufacturers the requisite information to begin development of applicable technologies and equipment. Consequently, the failure to allocate the spectrum to a particular service will substantially slow the use of the spectrum and unnecessarily delay the deployment of innovative technologies. Therefore, the Commission should conduct auctions only after the appropriate use for the spectrum has been specified.

Subject to appropriate allocation procedures, CTIA supports flexible use, broad license eligibility requirements, the ability to disaggregate and partition licenses, and allocation of 10 MHz blocks on an MTA basis. Further, CTIA strongly urges the Commission to award the C through F Block PCS licenses before auctioning the WCS spectrum in order to avoid undervalued bids

for WCS licenses. Finally, CTIA urges the Commission not only to exclude WCS from the spectrum cap but also to raise the cap as it applies to cellular, PCS and SMR service providers, in light of a lack of marketplace concentration and market power.

II. THE COMMISSION MUST ADEQUATELY ALLOCATE THE USE OF THE SPECTRUM AND IMPLEMENT ITS OTHER PROPOSALS TO FULFILL THE OBJECTIVES OF BOTH SECTION 3001 AND SECTION 309(J).

CTIA supports a market-based approach to spectrum assignment and use. This approach increases the efficient use of the spectrum by permitting service offerings to respond readily to demand shifts. The approach is also consistent with congressional directives as it fulfills the objectives of both Section 3001³ and Section 309(j).⁴ CTIA encourages the Commission to embrace these market principles more fully with respect to all CMRS spectrum.⁵

³ Omnibus Consolidated Appropriations Act, 1997, P.L. 104-208, 110 Stat. 3009 (1996) ("Appropriations Act").

⁴ 47 U.S.C. § 309(j). Section 309(j)(3) requires, inter alia, that the Commission fashion rules and auction WCS spectrum in a manner that: (1) promotes the development and rapid deployment of new technologies, products, and services; (2) promotes economic opportunity and competition and ensures that new and innovative technologies are readily accessible (by avoiding excessive concentration of licenses); (3) recovers a portion of the value of the spectrum made available for commercial use; and (4) encourages the efficient and intensive use of the spectrum. Id.

⁵ Prior to this Notice, the Commission has indicated a willingness to permit the market to determine the appropriate use of the spectrum. See, e.g., Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, First Report and Order and Further Notice of Proposed Rulemaking, FCC 96-283, at ¶ 19 (released Aug. 1, 1996) ("We believe that the public interest is better served by not attempting to limit potential use of CMRS spectrum to

Section 3001 requires the Commission to assign the use of the 2.3 GHz band by auction pursuant to Section 309(j) while seeking "to promote the most efficient use of the spectrum" and considering "the needs of public safety radio services."⁶ Section 3001 also requires that the Commission reallocate "the use of frequencies [at 2.3 GHz] to wireless services that are consistent with international footnotes." The broad Section 3001 allocation directive is clarified by (1) the Section 3001 requirement that the Commission "seek to promote the most efficient use of the spectrum"; and, (2) the objectives of Section 309(j) of the Communications Act.

While Congress chose not to select the particular technology or service for the 2.3 GHz band, Section 3001 and Section 309(j) strongly suggest that Congress did not intend to afford the Commission similar discretion to abstain from its allocation responsibilities.⁷ To the contrary, Section 3001 requires the

specific applications."); see also Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, *Second Report and Order*, 8 FCC Rcd 7700, 7712 at ¶ 23 (1993) (discussing the provision of the maximum degree of flexibility for use of the PCS spectrum as the most effective approach for meeting the Commission's "four objectives of universality, speed of deployment, diversity of services and competitive delivery").

⁶ Further, Section 3001 requires the commencement of public bidding by April 15, 1997, and directs that the proceeds of the competitive bidding be deposited by September 30, 1997.

⁷ See 47 U.S.C. § 303(b) (requiring the Commission to "prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class" as the public convenience, interest, or necessity requires). As CTIA demonstrates herein, the public interest

Commission to promote the efficient use of the spectrum. Section 309(j) similarly mandates the efficient and intensive use of the spectrum while simultaneously requiring the Commission to ensure the rapid deployment of new technologies and the ready accessibility of new and innovative technologies. These goals require the Commission to allocate the 2.3 GHz band to a particular wireless use. The absence of use allocation (or allocation so broad as to constitute an absence of allocation) will cause needless uncertainty for potential bidders, financial investors, and equipment manufacturers as to the initial use of the band. This uncertainty likely will result in delay, if not complete preclusion, of the full and efficient use of the band.⁸ Such a result is both inefficient and unnecessary. At a minimum, the Commission should provide a preliminary allocation for the band and permit flexibility after use of the band develops.

in the efficient and intensive use of the spectrum necessitates, at a minimum, an initial use allocation for the 2.3 GHz band.

⁸ The emphasis in the Notice on meeting time deadlines and generating revenue could, if taken to extremes, endanger the furtherance of Commission policy goals and compliance with the requirements of the Communications Act. While Section 3001 requires the Commission to auction the 2.3 GHz spectrum within a very short time period, thus necessitating an expedited schedule, notwithstanding the expedited schedule, Section 309 demands that the Commission fulfill the requirements of Section 3001 in a manner that serves the public interest. Indeed, the Commission recognizes that Congress established the objectives of the WCS auction not only through Section 3001, but also through Section 309(j). The Commission must not only recognize the existence of the directives contained in Section 309(j); it must apply them as well.

Subsequent to adequate initial allocation, flexible use carries several distinct advantages. Foremost, it minimizes government intervention into the workings of the market, a market which, to date, is functioning on a competitive level. By ceding control to the market, flexible use policies permit mixed service offerings and changes to existing service orientation as the market dictates without the necessity of obtaining prior regulatory approval (thereby conserving Commission resources). In short, a market-based spectrum management system quickly provides to consumers the most highly valued wireless services in the band.⁹

In addition, flexible use promotes the objectives of Section 309(j). Specifically, flexible use promotes the development and rapid deployment of new technologies, products, and services. Almost by definition, it promotes economic opportunity and ensures that new and innovative technologies are readily accessible (while avoiding excessive concentration). Its attractiveness to potential bidders will ensure that a portion of the spectrum's value is recovered. Finally, by permitting rapid

⁹ The public interest benefits of flexible spectrum use necessitate full application of flexible use to CMRS spectrum. See Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, WT Docket No. 96-6, *Comments of the Cellular Telecommunications Industry Association* (filed Nov. 25, 1996) (discussing the Commission's authority and the public interest need to regulate CMRS fixed use under Section 332 of the Communications Act).

changes in service orientation, flexible use policies promote the efficient and intensive use of the spectrum.

However, flexible use is not flexible allocation. The benefits of flexible use, namely full and efficient use of the spectrum and market-driven service offerings, could be undermined by uncertainty resulting from an unduly flexible approach to initial allocation of the 2.3 GHz band. CTIA supports the Commission's application of market principles such as flexible use. However, a properly-defined market is necessary for market principles to function properly. The Commission must allocate the 2.3 GHz band to a particular service (at least on a preliminary basis) in order to define the relevant market and generate the benefits offered from following market principles.

As a governing principle, CTIA believes that spectrum should be allocated on the basis of need. The scarcity of spectrum resources and the critical unmet needs for use of that spectrum require the consideration of factors of need in the allocation of the 2.3 GHz band. The requirement of Section 3001 that the Commission consider the needs of Public Safety agencies in assigning the 2.3 GHz band represents an implicit recognition of this principle's validity.¹⁰

¹⁰ However, in some circumstances, there exist critical unmet needs which require the Commission, in exercising its licensing authority, to take account of non-market factors. In the case of public safety, the PSWAC Final Report reflects a critical unmet need for additional spectrum. See Final Report of the Public Safety Wireless Advisory Committee to the Federal Communications Commission and the National Telecommunications and Information Administration, Sept. 11, 1996 at 19-20. Notwithstanding the Section 3001

CTIA supports the Commission's proposal to place no restrictions on eligibility to hold a WCS license (other than foreign ownership restrictions).¹¹ Broad eligibility would permit more competitors to enter the field, both non-wireless carriers as well as entities with wireless experience in cellular, PCS and SMR services. It is imperative that the Commission permit existing cellular, PCS and SMR service providers to bid on WCS licenses to encourage immediate and efficient use of the spectrum, to provide known, viable competition (consistent with Section 309(j)(3)(B)), and to avoid imposing competitive disadvantages on cellular, PCS and SMR service providers. Hence, CTIA supports the Commission's statement that

opening the WCS market to a wide range of applicants will permit and encourage entrepreneurial efforts to develop new technologies and services, while helping to ensure the highest and best use of this spectrum.¹²

requirement to assign the 2.3 GHz band through auctions, the Commission must also consider Congress' specific directive in Section 3001 to account for the critical unmet needs of public safety. CTIA encourages the Commission to consider the recent notice from the Association for Public Safety Communications Officials International ("APCO") that "there is a possibility that the 2.3 GHz band could be used to address some of the other communications needs identified by PSWAC." Letter from Marilyn Ward, President, APCO, to the Honorable Reed Hundt, Chairman, Federal Communications Commission, GN Docket No. 96-228 (Nov. 27, 1996). Moreover, unlicensed services have a need for additional spectrum which may also be satisfied in this proceeding. The Commission should explore this possibility through, perhaps, blanket licensing proposals.

¹¹ Notice at ¶ 23.

¹² Id.

In the past, the Commission's restrictions on wireless auction participation by existing wireless carriers was premised on the need to avoid excessive concentration of licenses in the control of a small number of carriers.¹³ However, market share concentration levels in the wireless industry, as shown by the attached HHI calculations, fail to raise antitrust concerns. The concentration levels are typical of competitive markets, even after considering the possibility of existing wireless carrier entry into the WCS market. Because the traditional rationale for excluding existing wireless carriers from wireless spectrum auctions does not apply in the instant situation, the Commission should permit cellular, PCS and SMR service provider participation in the 2.3 GHz auctions. Their participation likely will increase the value of the bids received at auction and will generate immediate competition in the band.

CTIA supports the Commission's proposal "to permit the WCS licensee or licensees to partition their service areas and disaggregate their spectrum"¹⁴ and agrees that this proposal

¹³ Section 309(j)(3)(B) requires the Commission to promote competition by avoiding excessive concentration of licenses. 47 U.S.C. § 309(j)(3)(B). The Commission relied upon this prohibition in originally adopting the 45 MHz CMRS cap. See Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, *Third Report and Order*, 9 FCC Rcd 7988, 8104 at ¶ 248 (1994) ("The lack of a spectrum cap could undermine other goals of the Budget Act, such as the avoidance of excessive concentration of licenses and the dissemination of licenses among a wide variety of applicants.").

¹⁴ Notice at ¶ 27.

would "serve to promote the efficient use of the spectrum" and "to overcome entry barriers through the creation of smaller licenses that require less capital."¹⁵ Recognizing the benefits of spectrum utilization, the Commission has embraced the notion of spectrum disaggregation and partitioning in other contexts. In allowing disaggregation and partitioning in the PCS context, the Commission noted that "[a]llowing spectrum disaggregation . . . will provide appropriate incentives for service providers to conserve their use of spectrum and to invest in spectrum conserving technologies."¹⁶ Similarly, in the Operational-Fixed Microwave Radio Service, the Commission authorized private OFS licensees to lease their excess capacity to other Part 94 eligibles on a for-profit basis "to promote more efficient use of the OFS spectrum."¹⁷ Further, the Commission has proposed geographic partitioning and spectrum disaggregation in a number of rulemakings including the 28 GHz Rulemaking,¹⁸ the

¹⁵ Id.

¹⁶ Amendment to the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, *Memorandum Opinion and Order*, 9 FCC Rcd 4957, 4985 at ¶ 70 (1994).

¹⁷ Authorization of Private Carrier Systems in the Private OFS Service, PR Docket No. 83-426, *First Report and Order*, 57 RR 2d 1486, 1500 (1985).

¹⁸ Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, CC Docket No. 92-297, *Third Notice of Proposed Rulemaking and Supplemental Tentative Decision*, 11 FCC Rcd 53, 72-73 at ¶¶ 51-53 (1995)

38 GHz Rulemaking,¹⁹ and the 800 MHz SMR Rulemaking.²⁰ The Commission's proposal to permit geographic partitioning and disaggregation of spectrum in WCS simply and appropriately continues a long-standing, successful policy of the Commission and should be adopted immediately -- not only for WCS, but for all CMRS bands. By permitting all CMRS providers to disaggregate and partition spectrum, the Commission will facilitate an increase in wireless telecommunications competition while promoting the full and efficient use of the spectrum.

Finally, CTIA strongly urges the Commission to reconsider its proposal to avoid build-out requirements for WCS licensees. Build-out requirements will ensure that licensees do not warehouse spectrum and will contribute to regulatory parity among wireless carriers. To avoid perpetual yet unconstructed licenses, 2.3 GHz licensees should comply with build-out requirements similar to those required of PCS licensees.

Moreover, the precept of regulatory parity underlying Section 332 dictates that like services must be regulated in a like manner. Hence, 2.3 GHz licensees, if providing CMRS, should

¹⁹ See Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, Notice of Proposed Rulemaking and Order, 11 FCC Rcd 4930, 4942-43 at ¶ 24 (1995).

²⁰ Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, GEN Docket No. 93-252, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463, 1578-9 at ¶¶ 257-263 (1995).

be regulated in a manner not dissimilar to the manner in which providers of substitutable services such as cellular, PCS and SMR are regulated. It follows that 2.3 GHz licensees must be held to similar build-out requirements as other wireless carriers. Otherwise, like services would be regulated differently causing artificial regulatory distortions in an otherwise competitive marketplace. In sum, to prevent spectrum warehousing, promote competition between wireless services and to honor the congressional directive of regulatory parity among wireless service providers which pervades Section 332, the Commission should reconsider its position in the Notice and adopt build-out requirements for 2.3 GHz licensees.

III. THE WCS AUCTION SHOULD BE DESIGNED TO MAXIMIZE EFFICIENT FLEXIBLE USE OF THE SPECTRUM.

In response to the Commission's proposals, CTIA supports an auction design in which licenses are no greater than 10 MHz and service areas are no larger than BTAs and MTAs. Licensing spectrum blocks of greater than 10 MHz would diminish the amount of competition that could be generated by the band.

Moreover, as CTIA has advocated in other contexts, it is more efficient to allocate small licenses and build to the needed level than it is to require, as a condition of entry, the accumulation of unmanageably large licenses necessitating subsequent disaggregation. A decision that risks "underassigning" spectrum is more readily cured in the marketplace than is the converse. If 20 or 30 MHz is required to achieve the minimum efficient scale to provide a particular

service using the 2.3 GHz band, the WCS providers will be free to engage in transactions to aggregate sufficient spectrum in order to achieve such scale.

The same market correction will not necessarily occur, however, should the Commission "overassign" spectrum per license. Overestimating minimum efficient scale in this context would delegate to the actual WCS licensees the decision whether to sell off spectrum to a wholly new entrant, a determination that WCS market incumbents may or may not find to be profit maximizing. The potential for spectrum-warehousing and competitor-minimizing conduct increases with spectrum "overassignment." Therefore, CTIA urges the Commission to act in favor of granting more licenses with somewhat reduced spectrum assignments.

The BTA/MTA license area similarly strikes a balance between competing interests. Smaller license areas, such as BTAs, facilitate rapid deployment, minimize construction costs and encourage the participation of small businesses. While larger license areas (such as nationwide licenses) might facilitate the timely completion of the competitive bidding process,²¹ license areas larger than an MTA unnecessarily would increase construction costs, deter investment by small businesses and

²¹ Although the Commission must consider the time constraints created by Section 3001, it cannot permit expediency to be the primary factor motivating auction design. As the Commission recognizes in the Notice, the objectives of Congress are also expressed in Section 309(j). See Notice at ¶ 39, n.52. The Commission must comply with the public interest obligations of Section 309(j), as well.

delay service deployment times. Once again, the BTA/MTA license area offers a reasonable compromise which combines the benefits of manageable construction costs, ease of service deployment and timely auction completion.

Further, licensing 10 MHz licenses on a BTA/MTA basis would serve competitive antitrust goals. Although a nationwide 30 MHz license would ease the Commission's auction burdens, it would increase CMRS market concentration to unacceptable levels, as indicated by the attached HHI analysis. Licensing three 10 MHz licenses would increase the difficulty of consolidation thereby permitting more entities to compete in the market.

By licensing the 2.3 GHz band in 10 MHz blocks on a BTA/MTA basis, the Commission will provide efficient building blocks for potential service providers. In the Notice, the Commission recognizes that the creation of smaller license areas "facilitat[es] greater participation by smaller entities such as small businesses, rural telephone companies and businesses owned by minorities and women."²² Congress has directed the Commission to encourage the participation of these entities in the competitive bidding process.²³ The Commission will be able to meet these obligations as well as others in both Section 309(j) and Section 3001 by licensing 10 MHz spectrum blocks on a BTA/MTA basis.

²² Notice at ¶ 27.

²³ 47 U.S.C. § 309(j)(3)(B).

Finally, in order to allow certainty in the valuation of WCS licenses and to maximize the Commission's auction revenues, the Commission must award PCS licenses in the C through F blocks before beginning the WCS spectrum auctions. Otherwise, potential WCS bidders will lack complete knowledge of the competitive wireless landscape. Lacking sufficient information, the market will fail to operate in its most efficient capacity. Consequently, rational bidders will undervalue their bids resulting in reduced revenues for the U.S. Treasury.²⁴ The identification of competitors to WCS licensees, the service areas of their competitors and the service offerings of their competitors will enhance the definition of the "property lines" of a WCS license and facilitate the formation of rational expectations necessary to obtaining the requisite financial support for bidding and development. The Commission should exercise its ability to provide sufficient information so that bidders may reach rational valuation decisions about WCS licenses by awarding PCS licenses in blocks C through F prior to auctioning WCS licenses.

²⁴ While Section 309(j) prohibits the consideration of added revenues as a valid public interest factor, providing certainty to prospective bidders so that they may make realistic assessments of the value of a given license fully promotes Section 309(j) objectives.

IV. MARKET DECONCENTRATION SUGGESTS THAT THE COMMISSION SHOULD RAISE THE SPECTRUM CAP ON CELLULAR, PCS AND SMR PROVIDERS TO FACILITATE COMPETITION.

A logical corollary to the proposed auction design of no more than 10 MHz in spectrum on no larger than an MTA basis is the need, which is tacitly recognized in the Notice, to relax the overall 45 MHz CMRS spectrum cap to 55 MHz.²⁵ The introduction of at least three additional licenses which may be used for CMRS warrants a revisitation of this cap. To the extent that the Commission is concerned with undue market concentration, an overall CMRS spectrum cap of 55 MHz does not appear to raise undue market concentration issues under the relevant HHI antitrust analysis.²⁶

Raising the spectrum cap will permit existing carriers to apply their expertise to the provision of services in the WCS band facilitating rapid deployment of technologies and promoting competition in the 2.3 GHz band, consistent with the requirements of Section 309(j). Further, raising the spectrum cap will generate considerable efficiencies in the wireless market by allowing the customers of cellular, PCS and SMR providers to realize the advantages of scope economies. For example, larger

²⁵ See 47 C.F.R. § 20.6(a) (prohibiting an attributable interest in a total of more than 45 MHz of CMRS spectrum in any geographic area).

²⁶ Moreover, the Commission would not be ceding its specific obligations under Section 309(j) to avoid excessive market concentration and its more general obligations under the Communications Act by relying upon antitrust principles (and those government entities entrusted with the primary enforcement of these principles) to police the working of the market.


spectrum bands would facilitate the transition from analog to digital by enabling the use of dual band CPE. In addition, cellular, PCS and SMR providers could offer a range of different service offerings complementary to their voice services, such as wireless Internet capabilities (and other broadband data features), thereby encouraging not only price competition, but also competition in the provision of service features. The Commission should introduce greater levels of competition and efficiency into the wireless industry by raising the spectrum cap.

V. CONCLUSION

CTIA urges the Commission to adopt the proposals detailed herein to allocate and assign the 2.3 GHz band in a manner that promotes the public interest goals of Section 309(j) and Section 3001.

Respectfully submitted,

**CELLULAR TELECOMMUNICATIONS
INDUSTRY ASSOCIATION**


Michael F. Altschul
Vice President, General Counsel

Randall S. Coleman
Vice President for
Regulatory Policy and Law

1250 Connecticut Avenue, N.W.
Suite 200
Washington, D.C. 20036
(202) 785-0081

Its Attorneys

December 4, 1996

**ATTACHMENT TO THE
COMMENTS OF THE
CELLULAR TELECOMMUNICATIONS
INDUSTRY ASSOCIATION**

GN DOCKET No. 96-228

HHI Calculations
Digital:Analog/ 3:1
Cellular Operators Bandwidth Devoted to Analog: 10 MHz

Firms	Bandwidth	Effective Capacity¹	Pre-expansion Market Share	Post-expansion Market Share
Pre-expansion				
Cellular 1	25	55	11.70%	9.82%
Cellular 2	25	55	11.70%	9.82%
3	30	90	19.15%	16.07%
4	30	90	19.15%	16.07%
5	30	90	19.15%	16.07%
6	10	30	6.38%	5.36%
7	10	30	6.38%	5.36%
8	10	30	6.38%	5.36%
Expansion				
9	10	30	0.00%	5.36%
10	10	30	0.00%	5.36%
11	10	30	0.00%	5.36%
Pre-expansion Total	170	470		
Post-expansion Total	200	560		
Pre-merger HHI				1496
Change				380
Post-merger HHI²				1876
Change				-469
Pre-merger/Post-expansion HHI				1408
Change				220
Post-merger/Post-expansion HHI³				1628
Pre-expansion HHI				1496
Change				-356
Post-expansion HHI				1140
Change				268
HHI after First Acquisition²				1408
Change				220
HHI after Second Acquisition³				1628
Total Post-expansion Change				488

Notes: ¹ Effective capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

² Cellular 1 acquires Firms 7 and 8.

³ Cellular 1 acquires Firm 11.

CERTIFICATE OF SERVICE

I, Michael F. Altschul, hereby certify that I have, this 4th day of December, 1996, served a copy of the "Comments of The Cellular Telecommunications Industry Association" by hand delivery to the following parties:

Reed E. Hundt
Chairman
Federal Communications Commission
1919 M Street, N.W.
Room 814
Washington, DC 20554

Commissioner Rachelle B. Chong
Federal Communications Commission
1919 M Street, N.W.
Room 844
Washington, DC 20554

Commissioner Susan Ness
Federal Communications Commission
1919 M Street, N.W., Room 832
Washington, D.C. 20554

Commissioner James H. Quello
Federal Communications Commission
1919 M Street, N.W.
Room 802
Washington, D.C. 20554

Ms. Michele Farquhar
Bureau Chief
Wireless Telecommunications Bureau
Federal Communications Commission
2025 M Street, N.W.
Room 5002
Washington, DC 20554


Michael F. Altschul